Year 9 Foundation Expected Standards

|  | Foundation <br> Prior knowledge | Grade 1 <br> Working towards Y9F Expected standards | Grade 2 <br> Working towards Y9FExpected standards Plus | Grade 3 <br> Meeting Y9F Expected standards | Grade 4 <br> Working above Y9F Standard | Grade 5 <br> Working well above Y9F Standard |
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| Number, Ratio, Proportion and Rates of Change | Use fraction notation to describe parts of shapes <br> Know square numbers <br> Round whole numbers to the nearest 10,100 or 1000 <br> Use written methods for HTU xU | Know multiplication facts up to $10 \times 10$ <br> Multiply and divide integers by 10 and 100 | Use column method to add and subtract numbers <br> Multiply mentally TU xU <br> Place value | Use compound measures: density, speed. <br> Convert numbers into and out of standard form <br> Use the laws of indices to multiply and divide numbers written in index notations | Multiply and divide decimals <br> Use a multiplier to increase or decrease by a percentage <br> Standard form <br> Interpret calculator displays <br> Terminating decimals and fractions | Write number as the product of its prime factors <br> Add and subtract fractions <br> Multiply and divide decimals |
| Algebra | Apply,+- , $x$ and $\div$ in correct order to whole numbers and proper fractions <br> Be able to use > or < correctly between two positive decimals up to 4 or 5 significant figures | Add, subtract, multiply and divide positive and negative whole numbers | Use simple number machines <br> Read positive $x$ and $y$ co-ordinates | Plot graphs given in the form $y=m x+c$ <br> Draw distance-time and velocity-time graphs <br> Solve simultaneous equations | Solve quadratic equations by factorising <br> Rearrange simple equations <br> Nth term of linear sequence <br> Finding equation of straight line | Solve equations with unknown on both sides <br> Substitute positive and negative numbers into formulae |
| Geometry and Measures | Suggest suitable units to estimate or measure length, mass and capacity Know the names of parts of circles | Know the sum of angles around a point and on a straight line | Measure lines to the nearest millimetre <br> Use a protractor to measure acute angles to the nearest degree | Use the formulae for area and circumference of a circle <br> Find the volume and surface area of prisms | Use constructions to show locus of a point <br> Begin to use trigonometry to find the size of an angle in a right-angle triangle | Solve angle problems involving parallel and intersecting lines, triangles and polygons <br> Apply Pythagoras' Theorem to solve problems |
| Statistics and Probability | Produce dual bar charts Interpret simple pie charts | Calculate the mean, median, mode and range for discrete data | Use a probability scale with words Represent data in a table | Draw and use sample space diagrams <br> Recognise the advantages and disadvantages between measures of averages | Find the range, modal class, interval containing the median and an estimate of the mean from a grouped frequency table <br> Draw and interpret scatter graphs | Draw pie charts and box plots <br> Scatter graphs <br> Histograms with equal class widths |

